

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251674

Luminaire Tested: **LD4B15D010 EU4B10208030 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251674
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B15D010 EU4B10208030 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1210.0 lumens
Efficiency: N/A
Efficacy: 84.1 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

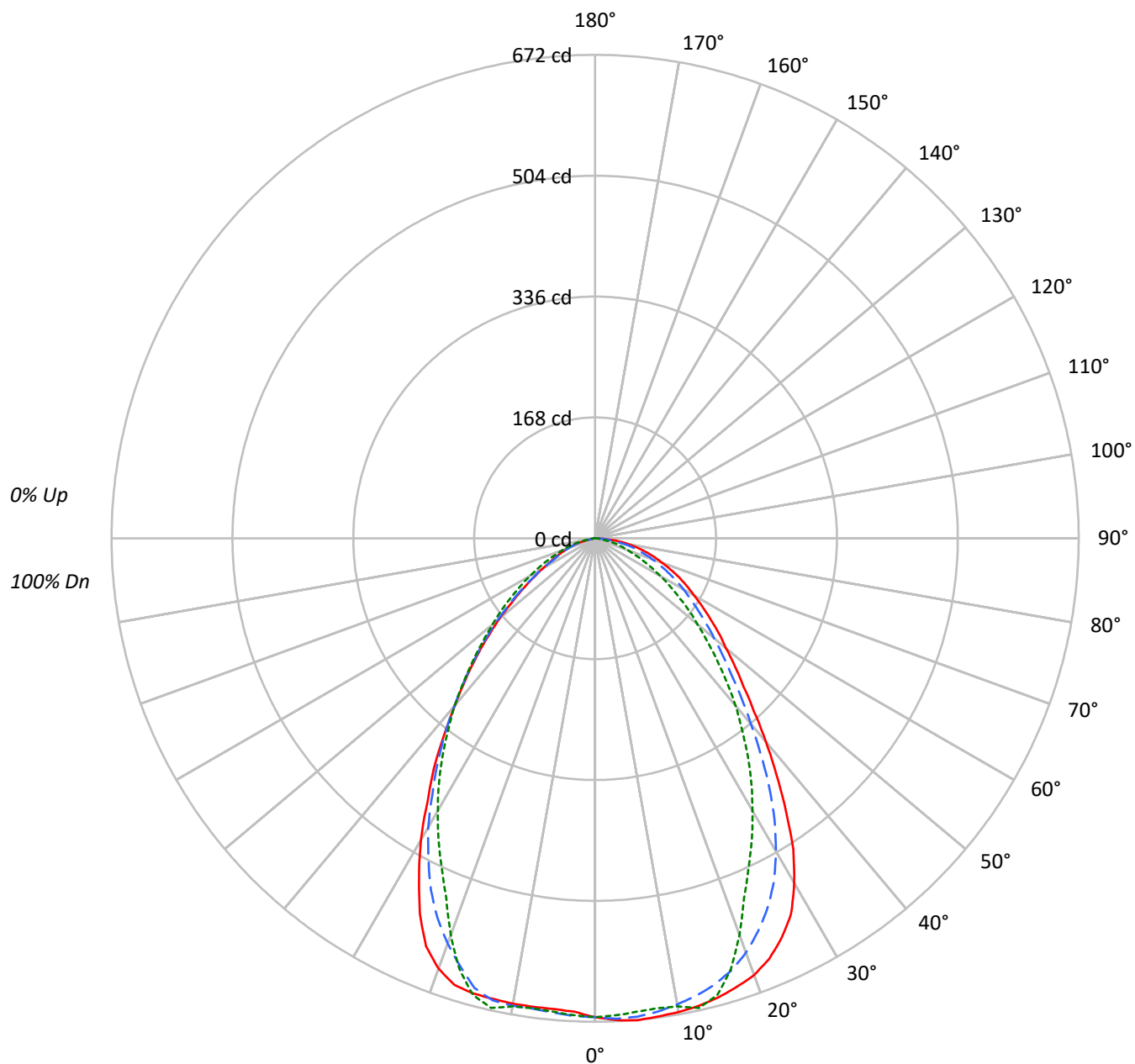
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0			
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			
1	111	107	103	100	108	105	101	99	101	98	96	97	95	93	93	91	90	88			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77			
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67			
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60			
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53			
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36			
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	64878	64878	64878
5°	65791	64646	64265
10°	66166	65394	65008
15°	66672	66279	66077
20°	67009	60838	66003
25°	65918	54261	61928
30°	62277	49212	54478
35°	54930	44009	46448
40°	46932	38625	38498
45°	40218	32954	32155
50°	35964	28125	26200
55°	33167	24043	20729
60°	31011	20349	16353
65°	29702	16880	13513
70°	28096	13621	11398
75°	27187	11033	8096
80°	26322	6005	2189
85°	22923	3243	1118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.2	5.2
10°-20°	181.9	15.0
20°-30°	252.4	20.9
30°-40°	249.1	20.6
40°-50°	195.4	16.1
50°-60°	135.3	11.2
60°-70°	82.9	6.9
70°-80°	41.4	3.4
80°-90°	8.3	0.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	497.5	41.1
0°-40°	746.6	61.7
0°-60°	1077.3	89.0
0°-90°	1210.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1210.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	666	666	666	666	666	
5°	672	668	661	662	657	64
15°	661	642	657	647	655	187
25°	613	567	505	540	576	281
35°	462	422	370	382	390	288
45°	292	267	239	236	233	228
55°	195	175	142	126	122	176
65°	129	111	73	55	59	127
75°	72	60	29	22	22	77
85°	20	12	3	1	1	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7
2.5°	670.5	668.6	667.6	670.5	669.6	671.5	670.5	669.6	667.6	668.6	668.6
5°	672.5	669.6	668.6	670.5	670.5	672.5	671.5	669.6	667.6	668.6	667.6
7.5°	670.5	668.6	668.6	669.6	668.6	670.5	668.6	666.6	664.7	665.7	663.7
10°	668.6	665.7	665.7	665.7	665.7	667.6	665.7	662.7	659.8	659.8	657.9
12.5°	665.7	662.7	662.7	663.7	661.8	663.7	661.8	656.9	654.0	653.0	651.0
15°	660.8	657.9	657.9	657.9	655.9	656.9	654.0	649.1	645.2	645.2	642.2
17.5°	654.0	651.0	650.1	650.1	647.1	648.1	645.2	640.3	634.4	632.5	629.6
20°	646.1	642.2	640.3	640.3	637.4	638.3	634.4	628.6	620.8	617.8	613.0
22.5°	632.5	630.5	627.6	626.6	623.7	622.7	618.8	611.0	604.2	599.3	591.5
25°	613.0	612.0	609.1	608.1	604.2	602.2	598.3	589.5	582.7	574.9	567.1
27.5°	589.5	585.6	583.7	580.8	576.8	575.9	571.0	563.2	552.4	547.6	537.8
30°	553.4	551.5	549.5	546.6	542.7	540.7	537.8	529.0	520.2	511.5	502.7
32.5°	512.4	508.5	505.6	506.6	501.7	499.7	494.9	487.1	479.2	473.4	463.6
35°	461.7	460.7	459.7	457.8	453.9	452.9	449.0	443.1	434.3	427.5	421.7
37.5°	413.8	410.9	409.0	409.0	405.1	405.1	402.1	395.3	390.4	385.5	377.7
40°	368.9	364.1	364.1	364.1	360.2	361.1	359.2	352.4	347.5	341.6	336.7
42.5°	327.0	325.0	324.0	322.1	320.1	320.1	318.2	314.3	309.4	305.5	300.6
45°	291.8	290.9	289.9	288.9	287.0	286.0	285.0	279.2	276.2	272.3	267.4
47.5°	263.5	261.6	260.6	259.6	257.7	256.7	254.8	250.8	247.9	244.0	240.1
50°	237.2	236.2	235.2	235.2	233.3	232.3	230.3	227.4	222.5	220.6	215.7
52.5°	216.7	214.7	212.8	212.8	210.8	210.8	207.9	205.0	200.1	198.1	194.2
55°	195.2	194.2	193.3	193.3	191.3	190.3	189.4	185.5	181.5	178.6	174.7
57.5°	176.7	175.7	174.7	174.7	172.8	171.8	170.8	167.9	164.0	162.0	157.1
60°	159.1	159.1	158.1	157.1	156.2	155.2	154.2	151.3	148.4	145.4	141.5
62.5°	143.5	142.5	141.5	140.6	140.6	139.6	138.6	134.7	132.7	129.8	125.9
65°	128.8	126.9	126.9	125.9	125.9	124.9	124.0	120.1	118.1	115.2	111.3
67.5°	113.2	112.2	111.3	111.3	110.3	110.3	109.3	106.4	103.5	101.5	97.6
70°	98.6	98.6	97.6	97.6	96.6	95.7	95.7	93.7	90.8	87.8	83.9
72.5°	85.9	84.9	83.9	83.9	83.0	83.0	82.0	80.0	78.1	76.1	71.3
75°	72.2	71.3	71.3	71.3	70.3	70.3	69.3	67.3	65.4	63.4	60.5
77.5°	59.5	59.5	58.6	58.6	57.6	57.6	57.6	55.6	53.7	51.7	47.8
80°	46.9	46.9	46.9	45.9	44.9	44.9	44.9	42.9	41.0	39.0	36.1
82.5°	34.2	33.2	33.2	32.2	31.2	31.2	31.2	29.3	28.3	25.4	23.4
85°	20.5	19.5	19.5	18.5	17.6	17.6	17.6	16.6	14.6	13.7	11.7
87.5°	7.8	7.8	7.8	7.8	7.8	6.8	6.8	5.9	5.9	4.9	4.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7
2.5°	668.6	667.6	667.6	666.6	667.6	665.7	665.7	665.7	665.7	663.7	663.7
5°	666.6	666.6	665.7	664.7	665.7	663.7	664.7	663.7	663.7	660.8	660.8
7.5°	662.7	661.8	659.8	658.8	659.8	658.8	658.8	658.8	660.8	658.8	658.8
10°	655.9	654.9	653.0	652.0	652.0	651.0	653.0	654.9	658.8	660.8	664.7
12.5°	649.1	647.1	646.1	646.1	647.1	647.1	651.0	655.9	665.7	668.6	672.5
15°	640.3	639.3	639.3	642.2	646.1	649.1	656.9	659.8	660.8	656.9	654.9
17.5°	628.6	628.6	629.6	632.5	635.4	635.4	636.4	634.4	632.5	627.6	621.7
20°	609.1	608.1	606.1	606.1	606.1	602.2	604.2	597.3	592.5	586.6	577.8
22.5°	584.7	579.8	572.9	568.1	565.1	563.2	558.3	550.5	544.6	540.7	536.8
25°	558.3	550.5	540.7	532.9	528.0	527.1	520.2	513.4	509.5	504.6	502.7
27.5°	528.0	519.3	507.5	499.7	495.8	492.9	487.1	480.2	475.3	471.4	468.5
30°	492.9	484.1	474.4	464.6	460.7	455.8	450.0	445.1	440.2	437.3	435.3
32.5°	453.9	445.1	435.3	428.5	423.6	419.7	414.8	409.9	406.0	404.1	402.1
35°	413.8	405.1	397.3	390.4	386.5	383.6	379.7	373.8	370.9	369.9	368.0
37.5°	370.9	365.0	358.2	352.4	349.4	345.5	343.6	338.7	338.7	334.8	334.8
40°	330.9	327.0	320.1	315.3	313.3	310.4	307.5	305.5	304.5	303.6	302.6
42.5°	295.7	289.9	286.0	282.1	279.2	277.2	277.2	274.3	273.3	270.4	269.4
45°	263.5	260.6	253.8	250.8	249.9	246.9	246.0	244.0	241.1	239.1	238.2
47.5°	235.2	232.3	228.4	224.5	222.5	220.6	218.6	215.7	213.8	210.8	209.9
50°	211.8	206.9	203.0	200.1	197.2	196.2	194.2	190.3	188.4	185.5	185.5
52.5°	190.3	186.4	181.5	178.6	175.7	173.7	170.8	167.9	165.0	164.0	161.0
55°	171.8	166.9	162.0	158.1	155.2	152.3	151.3	147.4	143.5	141.5	139.6
57.5°	154.2	149.3	143.5	138.6	136.6	134.7	131.8	127.9	124.9	122.0	120.1
60°	136.6	132.7	126.9	122.0	120.1	117.1	114.2	110.3	107.4	104.4	102.5
62.5°	122.0	116.2	111.3	106.4	103.5	101.5	97.6	94.7	90.8	87.8	84.9
65°	107.4	101.5	96.6	91.7	89.8	86.9	83.9	80.0	76.1	73.2	69.3
67.5°	92.7	87.8	83.0	78.1	76.1	74.2	70.3	66.4	62.5	59.5	55.6
70°	80.0	75.2	70.3	66.4	64.4	62.5	58.6	54.7	51.7	47.8	44.9
72.5°	68.3	64.4	59.5	55.6	53.7	51.7	47.8	44.9	41.0	39.0	36.1
75°	56.6	52.7	48.8	44.9	42.9	41.0	38.1	35.1	32.2	29.3	27.3
77.5°	44.9	41.0	37.1	34.2	32.2	31.2	28.3	25.4	22.4	20.5	17.6
80°	33.2	29.3	26.4	23.4	21.5	20.5	17.6	15.6	13.7	10.7	9.8
82.5°	20.5	17.6	15.6	13.7	12.7	11.7	9.8	7.8	6.8	5.9	4.9
85°	10.7	9.8	7.8	6.8	5.9	5.9	4.9	3.9	2.9	2.9	2.0
87.5°	3.9	2.9	2.9	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7
2.5°	661.8	662.7	663.7	664.7	663.7	663.7	665.7	661.8	664.7	664.7	660.8
5°	659.8	661.8	660.8	662.7	660.8	660.8	661.8	659.8	661.8	661.8	658.8
7.5°	657.9	659.8	659.8	660.8	659.8	659.8	660.8	657.9	659.8	659.8	656.9
10°	666.6	668.6	667.6	666.6	663.7	661.8	662.7	657.9	659.8	659.8	656.9
12.5°	669.6	668.6	664.7	662.7	660.8	658.8	659.8	655.9	657.9	657.9	655.9
15°	650.1	648.1	645.2	646.1	644.2	643.2	645.2	643.2	647.1	649.1	647.1
17.5°	616.9	615.9	613.9	613.9	613.9	614.9	617.8	617.8	623.7	627.6	629.6
20°	573.9	572.9	573.9	575.9	576.8	580.8	587.6	591.5	599.3	606.1	611.0
22.5°	534.9	536.8	539.8	543.7	544.6	549.5	558.3	562.2	572.0	579.8	584.7
25°	501.7	504.6	506.6	509.5	510.5	516.3	524.1	529.0	539.8	545.6	551.5
27.5°	468.5	472.4	473.4	477.3	477.3	483.1	490.0	494.9	501.7	507.5	512.4
30°	436.3	437.3	440.2	441.2	443.1	449.0	452.9	455.8	463.6	466.6	469.5
32.5°	401.2	405.1	407.0	408.0	407.0	411.9	415.8	417.8	420.7	424.6	426.5
35°	368.0	369.9	370.9	372.9	373.8	374.8	376.8	377.7	381.6	382.6	383.6
37.5°	334.8	337.7	336.7	337.7	337.7	338.7	340.6	339.7	342.6	343.6	342.6
40°	301.6	301.6	303.6	302.6	303.6	302.6	304.5	304.5	304.5	305.5	304.5
42.5°	268.4	269.4	268.4	270.4	268.4	269.4	269.4	268.4	269.4	268.4	268.4
45°	238.2	238.2	238.2	238.2	236.2	236.2	238.2	237.2	236.2	235.2	234.3
47.5°	208.9	209.9	207.9	208.9	207.9	206.9	205.9	205.9	205.0	203.0	202.0
50°	184.5	182.5	181.5	182.5	181.5	180.6	179.6	177.6	176.7	174.7	173.7
52.5°	160.1	158.1	156.2	156.2	155.2	153.2	152.3	150.3	149.3	147.4	147.4
55°	138.6	136.6	134.7	133.7	131.8	129.8	128.8	126.9	125.9	124.0	122.0
57.5°	118.1	115.2	113.2	112.2	111.3	108.3	107.4	105.4	103.5	101.5	100.5
60°	99.6	96.6	93.7	92.7	91.7	88.8	87.8	84.9	83.9	82.0	81.0
62.5°	82.0	80.0	76.1	75.2	73.2	71.3	68.3	67.3	66.4	67.3	67.3
65°	66.4	63.4	60.5	59.5	57.6	55.6	54.7	53.7	54.7	54.7	55.6
67.5°	52.7	49.8	46.9	46.9	45.9	43.9	43.9	43.9	44.9	44.9	45.9
70°	42.0	40.0	38.1	37.1	37.1	36.1	37.1	37.1	38.1	38.1	38.1
72.5°	33.2	32.2	31.2	30.3	30.3	30.3	30.3	30.3	30.3	30.3	31.2
75°	25.4	24.4	23.4	23.4	22.4	22.4	22.4	22.4	22.4	22.4	21.5
77.5°	16.6	15.6	14.6	14.6	13.7	12.7	12.7	11.7	11.7	11.7	11.7
80°	8.8	7.8	6.8	5.9	5.9	4.9	4.9	4.9	4.9	3.9	3.9
82.5°	3.9	2.9	2.9	2.9	2.9	2.0	2.0	2.0	2.0	2.0	2.0
85°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	665.7	665.7	665.7	665.7	665.7	665.7	665.7	665.7
2.5°	662.7	660.8	662.7	663.7	661.8	660.8	662.7	658.8
5°	661.8	658.8	659.8	660.8	658.8	657.9	659.8	656.9
7.5°	659.8	658.8	659.8	660.8	657.9	657.9	659.8	656.9
10°	659.8	657.9	658.8	660.8	658.8	658.8	660.8	656.9
12.5°	658.8	655.9	658.8	659.8	657.9	657.9	659.8	655.9
15°	652.0	652.0	653.0	654.9	654.0	654.9	657.9	654.9
17.5°	637.4	639.3	643.2	646.1	648.1	650.1	653.0	651.0
20°	619.8	622.7	627.6	630.5	634.4	635.4	640.3	636.4
22.5°	592.5	598.3	602.2	605.2	608.1	611.0	614.9	613.9
25°	559.3	563.2	566.1	569.0	572.9	574.9	576.8	575.9
27.5°	519.3	521.2	525.1	527.1	529.0	531.0	534.9	530.0
30°	475.3	476.3	478.3	481.2	481.2	483.1	485.1	484.1
32.5°	430.4	430.4	432.4	434.3	433.4	434.3	438.2	433.4
35°	386.5	385.5	388.5	389.4	389.4	388.5	391.4	390.4
37.5°	343.6	344.5	345.5	346.5	344.5	346.5	346.5	344.5
40°	304.5	303.6	305.5	306.5	305.5	306.5	306.5	302.6
42.5°	269.4	267.4	268.4	269.4	268.4	269.4	268.4	266.5
45°	235.2	234.3	234.3	235.2	233.3	233.3	233.3	233.3
47.5°	203.0	202.0	203.0	203.0	201.1	201.1	202.0	201.1
50°	173.7	172.8	172.8	172.8	171.8	171.8	172.8	172.8
52.5°	147.4	145.4	145.4	145.4	145.4	145.4	146.4	144.5
55°	121.0	121.0	121.0	121.0	122.0	122.0	122.0	122.0
57.5°	99.6	100.5	100.5	101.5	100.5	101.5	101.5	100.5
60°	83.0	82.0	83.0	83.0	83.9	83.9	83.9	83.9
62.5°	68.3	68.3	68.3	69.3	69.3	69.3	70.3	69.3
65°	56.6	56.6	57.6	57.6	57.6	58.6	58.6	58.6
67.5°	46.9	46.9	46.9	46.9	47.8	47.8	48.8	47.8
70°	39.0	39.0	39.0	39.0	39.0	40.0	40.0	40.0
72.5°	31.2	31.2	31.2	31.2	32.2	32.2	32.2	32.2
75°	21.5	21.5	21.5	22.4	21.5	21.5	21.5	21.5
77.5°	10.7	10.7	10.7	10.7	10.7	9.8	9.8	9.8
80°	3.9	3.9	3.9	3.9	3.9	3.9	2.9	3.9
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)